

WHAT IS CLAIMED IS:

- 1 1. A cartridge system for an electrical test probe, said system
2 comprising:
3 (a) a main probing head body;
4 (b) electronics positioned within said main probing head body;
5 (c) a minimally inductive electrical contact mechanism directly
6 electrically coupled to said electronics, said electrical contact
7 mechanism protruding from said main probing head body;
8 (d) a probing tip cartridge interconnectable with said main probing
9 head body;
10 (e) a probing tip with a conductive surface, at least part of said
11 conductive surface being exposed;
12 (f) said probing tip interconnectable with said probing tip cartridge;
13 (g) said probing tip cartridge being a switchable and replaceable
14 probing tip cartridge;
15 (h) said electrical contact mechanism contacting said conductive
16 surface when said probing tip cartridge is in mating relationship with
17 said main probing head body; and
18 (i) a signal testing instrument functionally associatable with said
19 probing tip so that a signal through said probing tip may be
20 measured by said signal testing instrument;
21 (j) wherein said cartridge system is suitable for high bandwidth
22 applications.
- 1 2. The system of claim 1, said electronics being selectively electrically
2 coupled to said signal testing instrument via a cable.
- 1 3. The system of claim 1, said probing tip cartridge being disposable.
- 1 4. The system of claim 1, said probing tip being a socket for receiving
2 other probing tips.

1 5. The system of claim 1, said electrical contact mechanism being a
2 signal spring contact.

1 6. The system of claim 1, said electrical contact mechanism being a
2 leaf spring.

1 7. The system of claim 1, said probing tip cartridge being an
2 integrated grabber cartridge.

1 8. The system of claim 1, further comprising:

2 (a) said main probing head body having a set of gripping jaws; and

3 (b) said probing tip cartridge having gripping surfaces;

4 (c) wherein said gripping jaws grip said gripping surfaces.

1 9. The system of claim 1 wherein said probing tip cartridge is held in
2 place by a foot extending into said main probing head body.

1 10. The system of claim 1 wherein said probing tip cartridge is held in
2 place by a rear boot gripping both said probing tip cartridge and said main probing head
3 body.

1 11. A method for using a cartridge system for an electrical test probe,
2 said method comprising the steps of:

3 (a) providing a main probing head body having electronics positioned
4 therein and a minimally inductive electrical contact mechanism
5 directly electrically coupled to said electronics;

6 (b) providing a switchable and replaceable probing tip cartridge;

7 (c) providing a probing tip with a conductive surface defined therein, at
8 least part of said conductive surface being exposed, said probing
9 tip interconnectable with said probing tip cartridge;

10 (d) protruding said electrical contact mechanism from said main
11 probing head body;

12 (e) bringing said probing tip cartridge into mating relationship with said
13 main probing head body;

- 14 (f) coupling electronically said electrical contact mechanism with said
15 conductive surface;
16 (g) securing said probing tip cartridge in mating relationship with said
17 main probing head body;
18 (h) providing a signal testing instrument;
19 (i) associating functionally said probing tip with said signal testing
20 instrument; and
21 (j) testing a high bandwidth signal through said probing tip using said
22 signal testing instrument.

1 12. The method of claim 11 wherein said step of securing further
2 comprises the step of securing said probing tip cartridge in mating relationship with said
3 main probing head body by extending a foot of said probing tip cartridge into said main
4 probing head body.

1 13. The method of claim 11 said step of securing further comprises the
2 step of securing said probing tip cartridge in mating relationship with said main probing
3 head body by gripping both said probing tip cartridge and said main probing head body
4 with a rear boot.

1 14. The method of claim 11 further comprising the steps of:
2 (a) releasing said probing tip cartridge from its mating relationship with
3 said main probing head body;
4 (b) removing said probing tip cartridge;
5 (c) providing a replacement probing tip cartridge having a probing tip
6 with a conductive surface defined therein, at least part of said
7 conductive surface being exposed;
8 (d) bringing said replacement probing tip cartridge into mating
9 relationship with said main probing head body;
10 (e) coupling electronically said electrical contact mechanism with said
11 conductive surface; and
12 (f) securing said replacement probing tip cartridge in mating
13 relationship with said main probing head body.

1 15. The method of claim 11 further comprising the step of gripping
2 surfaces of said probing tip cartridge using a set of gripping jaws of said main probing
3 head body.

1 16. A cartridge system for an electrical test probe, said system
2 comprising:

- 3 (a) a main probing head body;
- 4 (b) electronics positioned within said main probing head body;
- 5 (c) a switchable and replaceable probing tip cartridge;
- 6 (d) a probing tip interconnectable with said probing tip cartridge; and
- 7 (e) a minimally inductive electrical contact mechanism for electrically
8 coupling said electronics to said probing tip when said probing tip
9 cartridge is in mating relationship with said main probing head
10 body.

1 17. The system of claim 16, said electrical contact mechanism
2 protruding from said main probing head body.

1 18. The system of claim 16, said electronics being selectively
2 electrically coupled to a signal testing instrument via a cable.

1 19. The system of claim 16, said probing tip cartridge being held in
2 place by at least one foot extending into said main probing head body.

1 20. A cartridge system for an electrical test probe, said system
2 comprising:

- 3 (a) a main probing head body;
- 4 (b) electronics positioned within said main probing head body;
- 5 (c) a switchable and replaceable probing tip cartridge, said probing tip
6 cartridge having at least one foot;
- 7 (d) a probing tip interconnectable with said probing tip cartridge;
- 8 (e) a minimally inductive electrical contact mechanism protruding from
9 said main probing head body, said electrical contact mechanism for
10 electrically coupling said electronics to said probing tip when said

- 11 probing tip cartridge is in mating relationship with said main probing
12 head body; and
13 (f) said probing tip cartridge being held in place by said at least one
14 foot extending into said main probing head body.